

Customer No.: 31561
Application No.: 10/709,990
Docket No.: 11416-US-PA

REMARKS

Present Status of the Application

The Office Action dated June 6, 2005 has rejected claims 1-3, 6, 8-11 and 13-14 as being unpatentable over US 4009027 to Naidich et al. (USP 4009027) and claims 4-5 as being unpatentable over Naidich in view of JP 06081057.

Upon entry of the amendments in this response, claims 1 and 5 have been amended; claims 4 and 10-14 have been canceled without prejudice, waiver, or disclaimer. Hence, claims 1-3, 5-6 and 8-9 are pending in the present application, with claim 1 being the independent claim.

After carefully considering the remarks set forth in this Office Action and the cited references, Applicants respectfully submitted that the now pending claims are in condition for allowance. Reconsideration and withdrawal of the Examiner's rejection are requested.

Response to Rejections under 35 U.S.C. 103

Claims 1-3, 6, 8-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 4009027 to Naidich et al.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naidich in view of JP 06081057 (abstract). Applicants respectfully transverse the rejection as it applies to claim 1-5, 8, 10, and 13 for at least the reasons set forth below.

The present invention teaches, as recited in independent claim 1, a solder composition, adapted to bond metallic and non-metallic materials, that comprises chromium (Cr) in an amount of 5~20 wt.%; stibium (Sb) in an amount of 0.01~50 wt.%; a component selected

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from the group consisting of tin (Sn), zinc (Zn), bismuth (Bi), indium (In) and a mixture thereof; another component selected from the IIIB group in the periodic table or a mixture thereof in an amount of 0.01~20 wt.%; and an impurity. On the other hand, Naidich teaches an alloy composition for metallization and brazing in general. There is no explicit teaching or implicit suggestion that the alloy composition is applicable as a solder for bonding metallic and non-metallic materials. Moreover, as recognized by the Office, Naidich is completely silent about the component selected from the IIIB group in the periodic table or a mixture thereof in an amount of 0.01~20 wt.%.

The Office further relies on the JP patent to teach the group III B element such as Ce. However, the JP patent teaches the addition of the group III B element to a Cu-Fe alloy, rather than to an alloy with chromium, stibium and a component selected from Sn, Zn, Bi, In and a mixture thereof.

Accordingly, Applicants respectfully submit that the motivation to combine Naidich with the JP patent to render the present invention unpatentable is lacking. Reconsideration and withdrawal of the rejection are respectfully requested.

Applicants respectfully submit to the Office with experimental results to support the alloy composition of the present invention is superior to the conventional composition. In the Table on Page 1 of Appendix I, columns 2 and 3 represent the stress being supported by samples formed with the conventional alloy composition and the composition of the instant case, respectively. The conventional alloy composition is basically a Sn-Ti alloy. It is obvious that samples formed with the composition of the instant case are superior in

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supporting tensile stress. Page 2 of Appendix I shows the instrument used in the tensile stress experiment.